

Connecticut Environmental Policy Act Public Hearing

University of Connecticut Mirror Lake Improvements

Presented by:

Fuss & O'Neill, Inc.

April 13, 2022

Presentation/CEPA Team

- **Fuss & O'Neill, Inc.**



Diane Mas, PhD, REHS/RS –
CEPA Specialist



Alex Maxwell, PhD, Resilience
Planner

Additional Panelists

- **Sean Vasington**, PLA, ASLA – UConn
- **Ian Dann**, PLA, SITES AP, ASLA – UConn
- **Dan Cefaratti**, PE – BVH Integrated Services
- **Scott Waitkus**, PE – BVH Integrated Services
- **Dave Barstow**, PE – GZA GeoEnvironmental, Inc.
- **Nat Arai**, PE – GZA GeoEnvironmental, Inc.

Webinar “Tech Check”



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Connecticut Environmental Policy Act Public Hearing

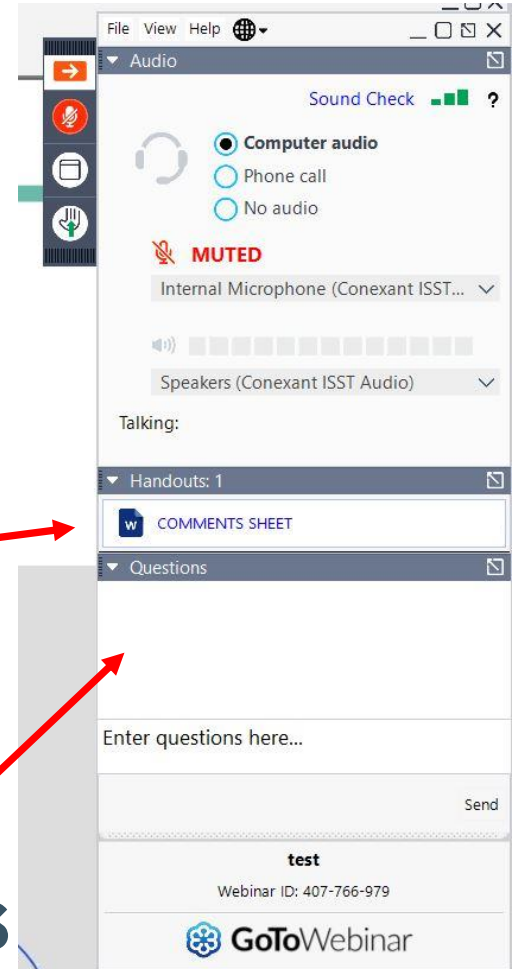
University of Connecticut Mirror Lake Improvements

Presented by:
UConn University Planning, Design and Construction
Fuss & O'Neill, Inc.

April 13, 2022



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COMMENTS SHEET

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Handouts



Comments



Presentation Agenda

- **Purpose of Tonight's Meeting**
- **Project Overview**
 - Purpose and Need
 - Alternatives
- **Assessment of Impact**
- **Public Comments**



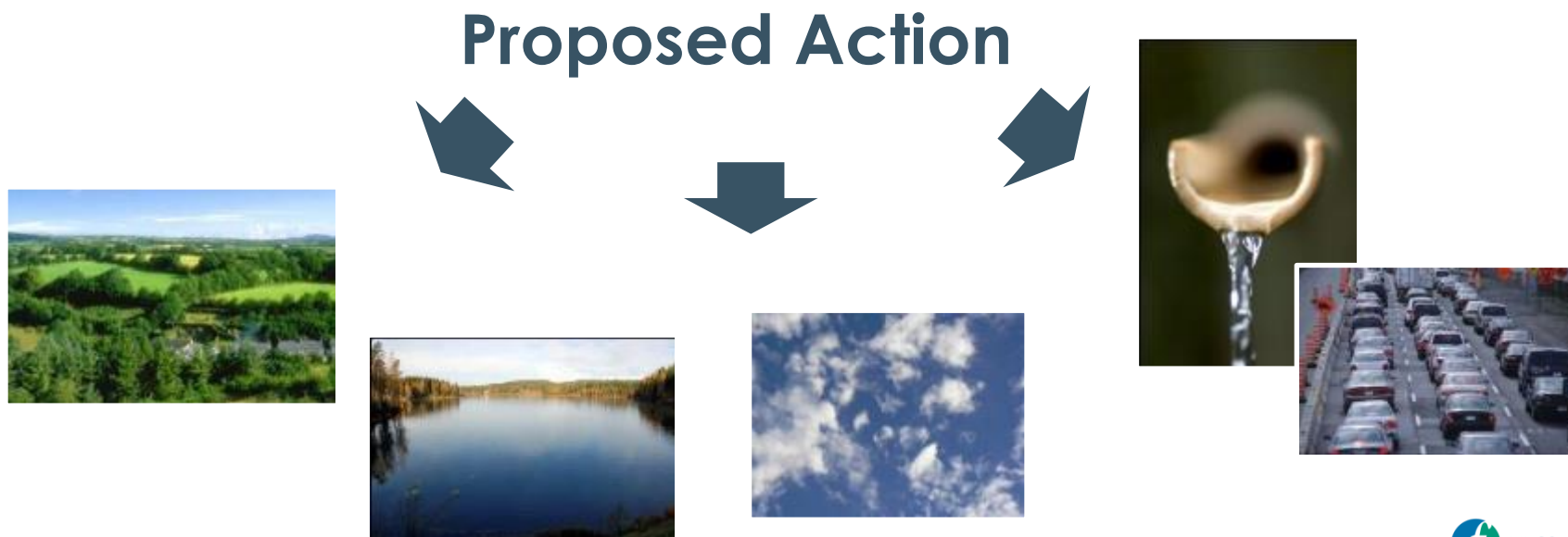
Purpose of Tonight's Meeting

- Provide information on **Mirror Lake Improvements**
- Describe **potential impacts and mitigation**
- Outline **final phases** of evaluation under CEPA
 - Note: **final designs are still in progress**
- Solicit **verbal and written comments**



What is CEPA?

- **Connecticut Environmental Policy Act (CEPA)**
- **Identify and evaluate the impacts of proposed state actions** that may significantly affect the environment
- Allow for **public input**



CEPA Resource Considerations

Direct, indirect, & cumulative effects:

Natural

- **Water quality** (incl. surface water and groundwater)
- **Flooding**, in-stream flows, erosion or sedimentation
- Natural communities, **critical plant and animal species**
- Resident or migratory fish or **wildlife species**
- **Air** quality
- Ambient **noise** levels
- **Existing land resources** and landscapes (incl. coastal and inland wetlands)
- **Greenhouse gas emissions**
- Changing **climate** (incl. resilience)

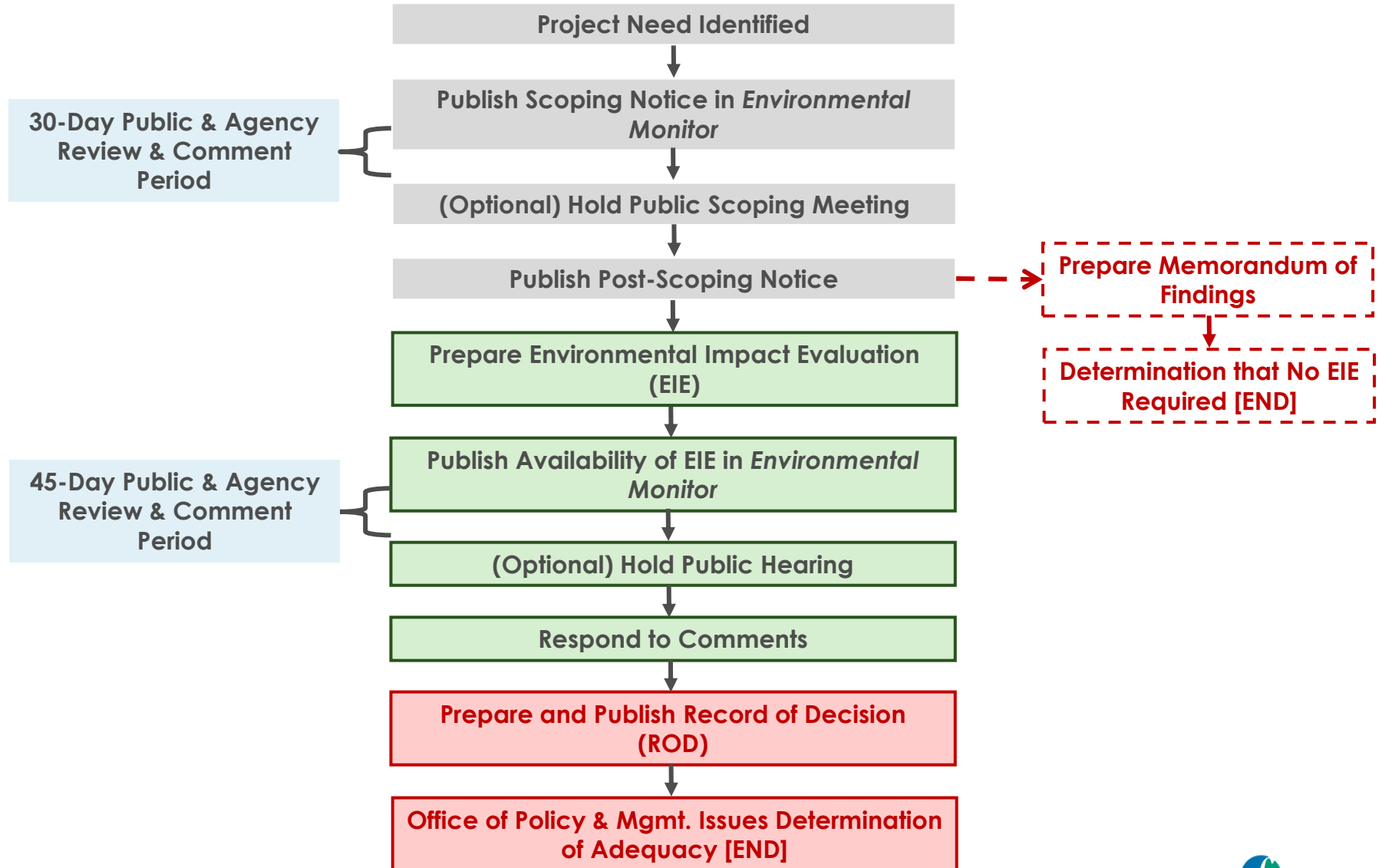
Socioeconomic

- **Historic, archeological, cultural**, or recreational building or site
- **Aesthetic** or visual effects
- State, regional, and municipal **plans**
- Existing housing, communities
- **Population**
- **Human health and safety**
- Other natural, cultural, recreational, or scenic resources

Physical

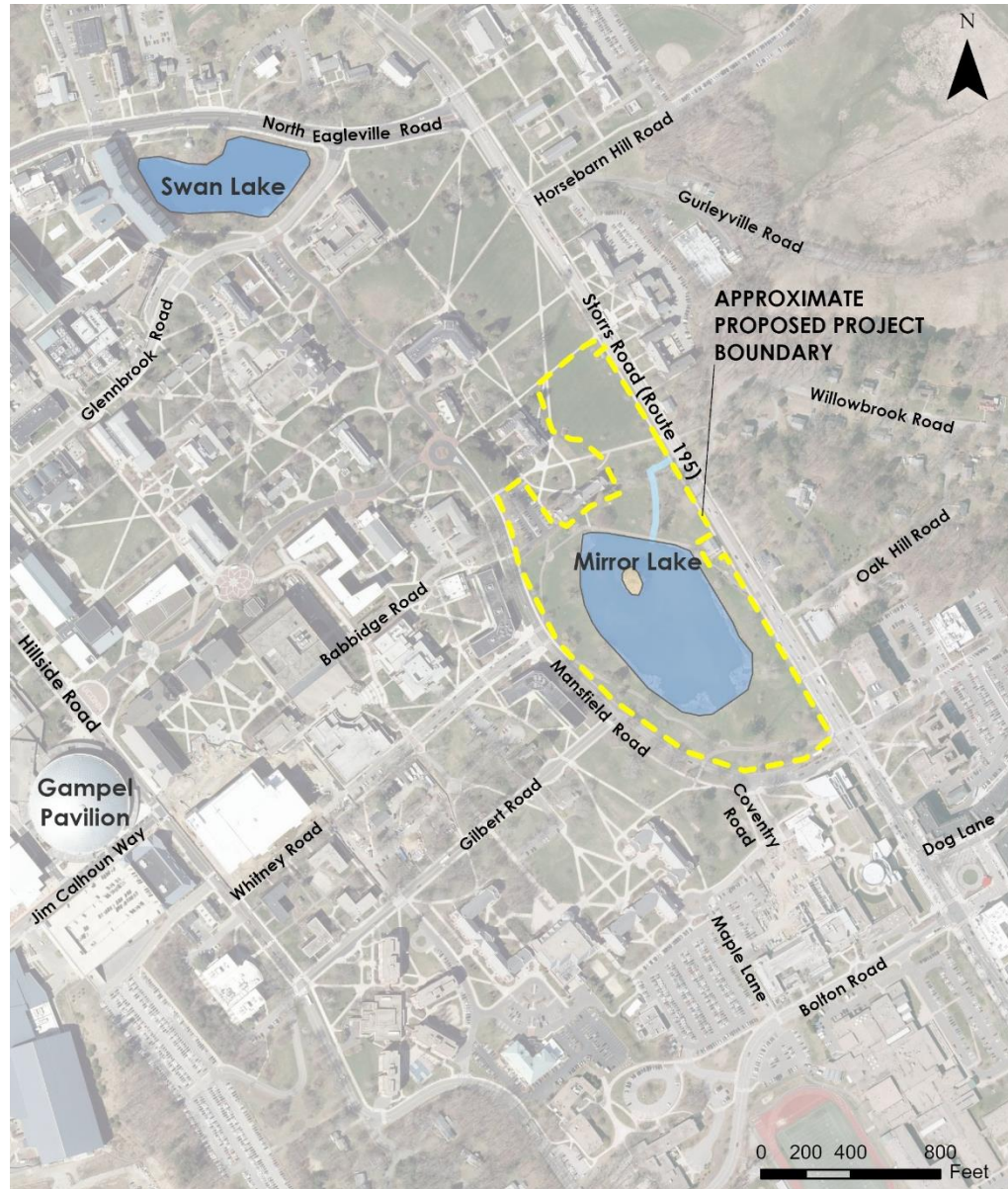
- Public **water supply** system
- Pesticides, toxic or **hazardous materials**
- **Congestion** (traffic, recreational, other)
- **Energy use**
- **Agricultural** resources
- Existing/proposed **utilities/infrastructure**

CEPA Process Map & Proposed Timeline



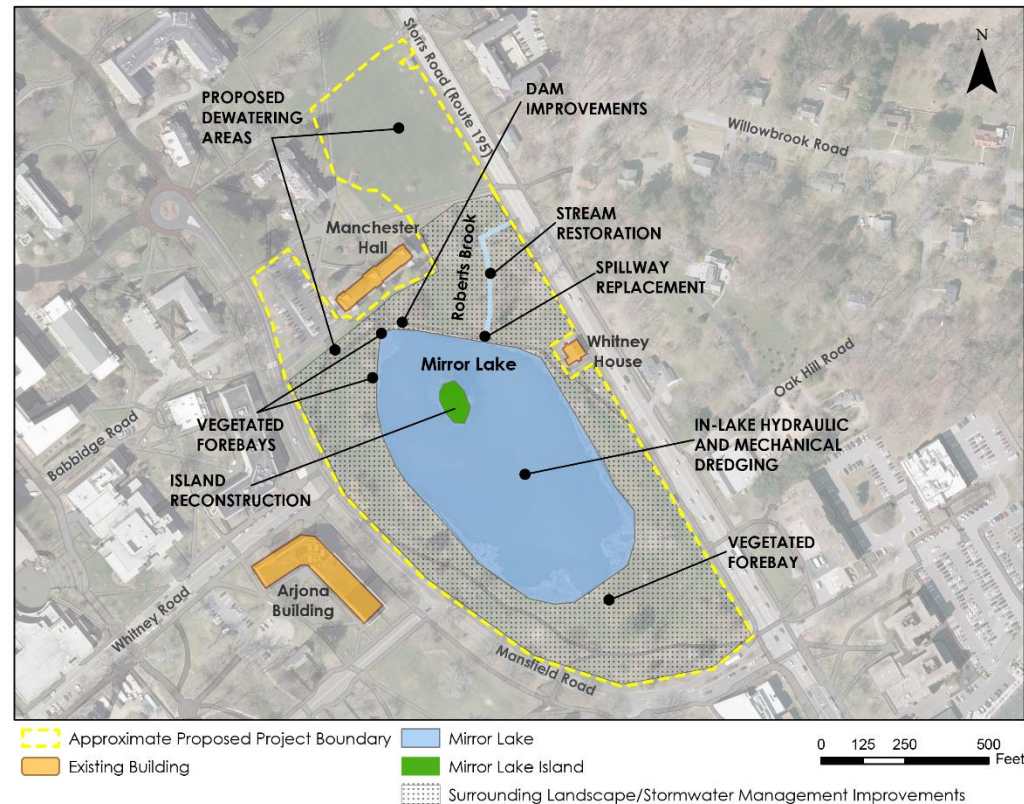
Project Overview

Project Location on Campus



Project Overview

- **Improvements to Mirror Lake** – a large stormwater management basin
- On the Storrs Campus in the area of the **South Campus** roughly bounded by:
 - Storrs Road to the east
 - Mansfield Road to the south and west
 - Harry Grant Manchester Hall and Great Lawn to the north



Purpose and Need

- **Purpose: Address dam/spillway safety deficiencies, manage stormwater** and slow sediment accumulation, **improve aquatic health/water quality & function of the lake as a landscape element** on campus
- **Need: Recently-completed feasibility study for Mirror Lake identified needed modifications** to the stormwater basin, spillway and dam to improve storage, quality, and safety



Proposed Action

- **Dam Safety Improvements** – to address dam and spillway condition, provide at least 1-foot of freeboard during 100-year event
- **Stream Restoration (Roberts Brook)** – to enhance habitat, improve water quality and stormwater management
- **Dredging** – to remove accumulated sediment and add depth to improve water quality/aquatic health
- **Stormwater Management** – to capture sediment/nutrients prior to entering Mirror Lake
- **Landscape Elements** – to support stormwater management and enhance access to water, amplify Mirror Lake's role as an iconic landmark on campus

Alternative Actions

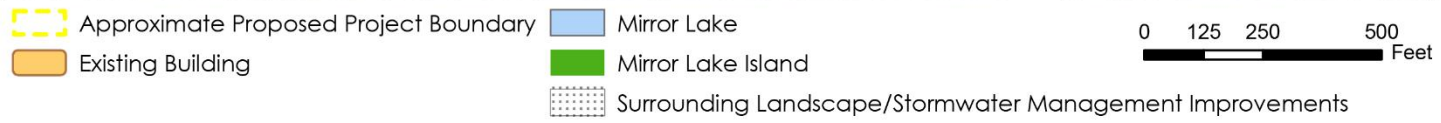
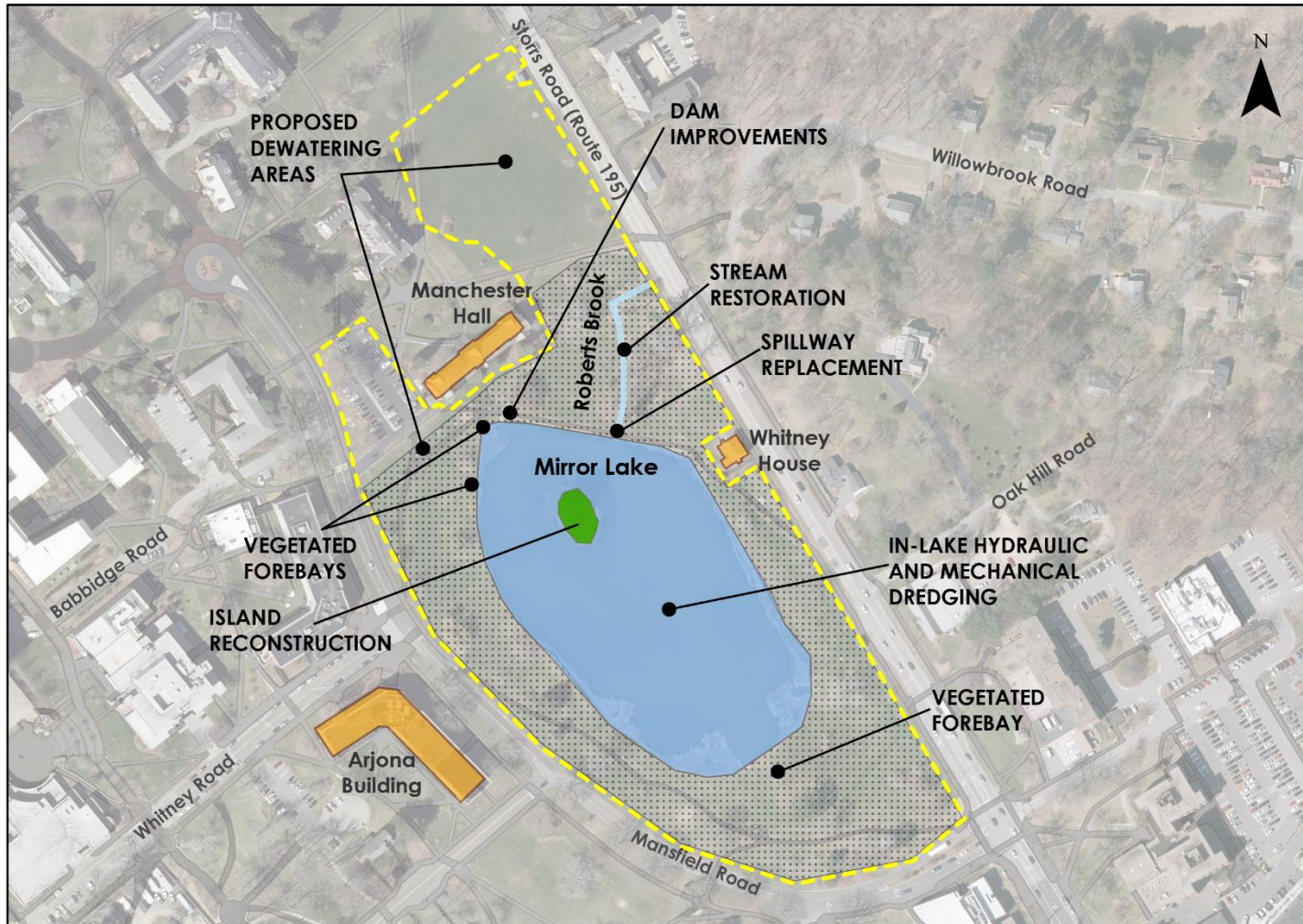


- No Action
- Enlarge Footprint and Raise Berm
- Dam and Spillway Alternatives
- In-Lake Sediment Alternatives

Alternatives Overview

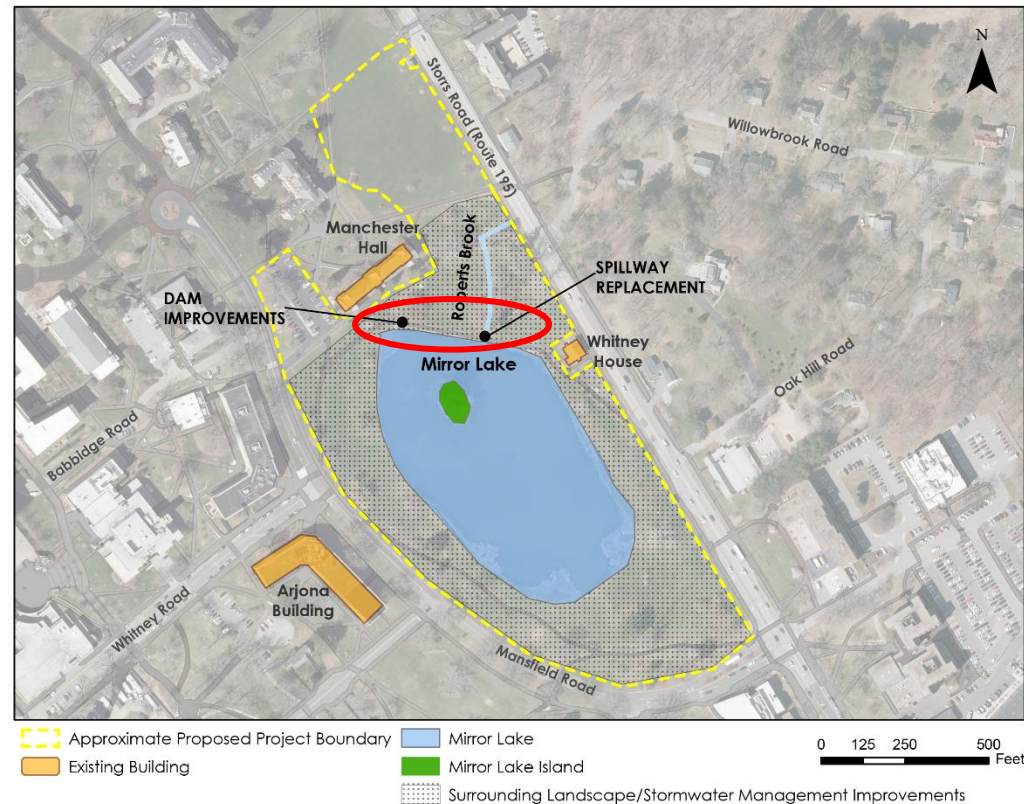
- **No Action**
 - Existing dam safety, water quality, stormwater concerns
- **Enlarge footprint and raise berm**
 - Only addresses stormwater, not aquatic health/water quality or dam safety
 - Spillway not altered
- **Dam and Spillway Alternatives**
 - Used an incremental damage analysis (IDA) to determine the spillway design flood (SDF)
- **In-Lake Sediment (Dredging) Alternatives**
 - **Soft Sediment Only, No Forebays** - Addresses accumulated sediment but not stormwater control
 - **Depth and type of dredging** - hydraulic/mechanical, 6-12'

Preferred Alternative



Preferred Alternative

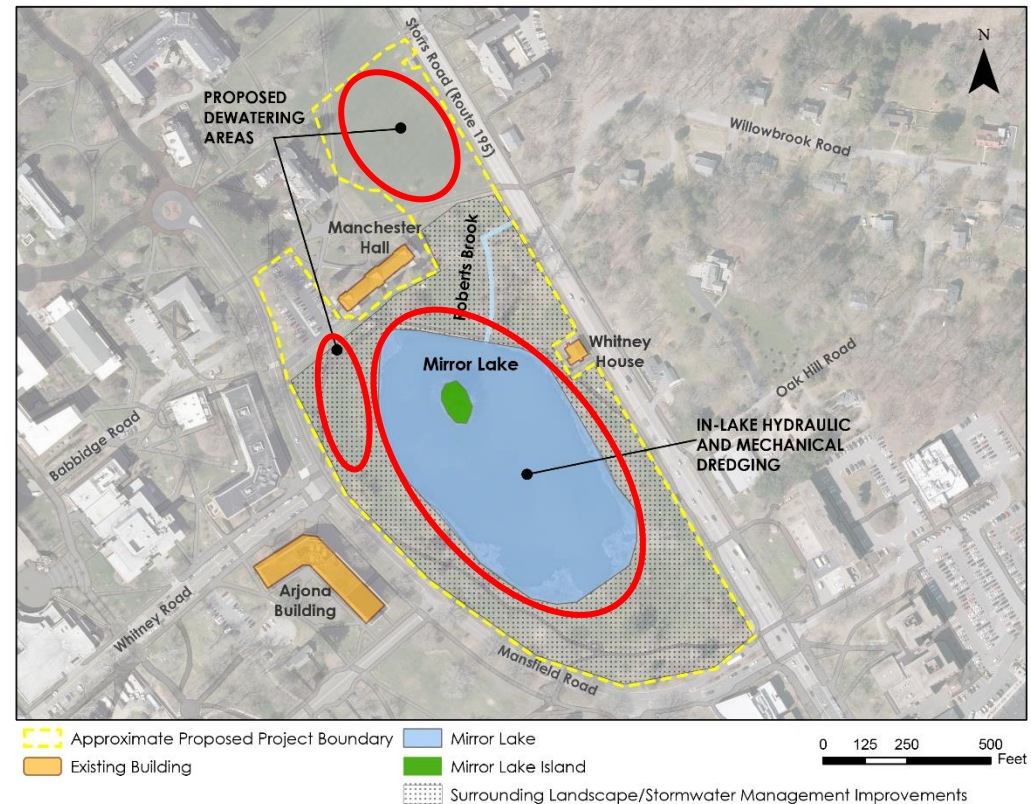
- **Dam/Spillway Safety Improvements**
 - Replace existing spillway
 - Raise dam's earthen embankment
 - Add upstream erosion protection
 - Regrade upstream and downstream slopes



Preferred Alternative

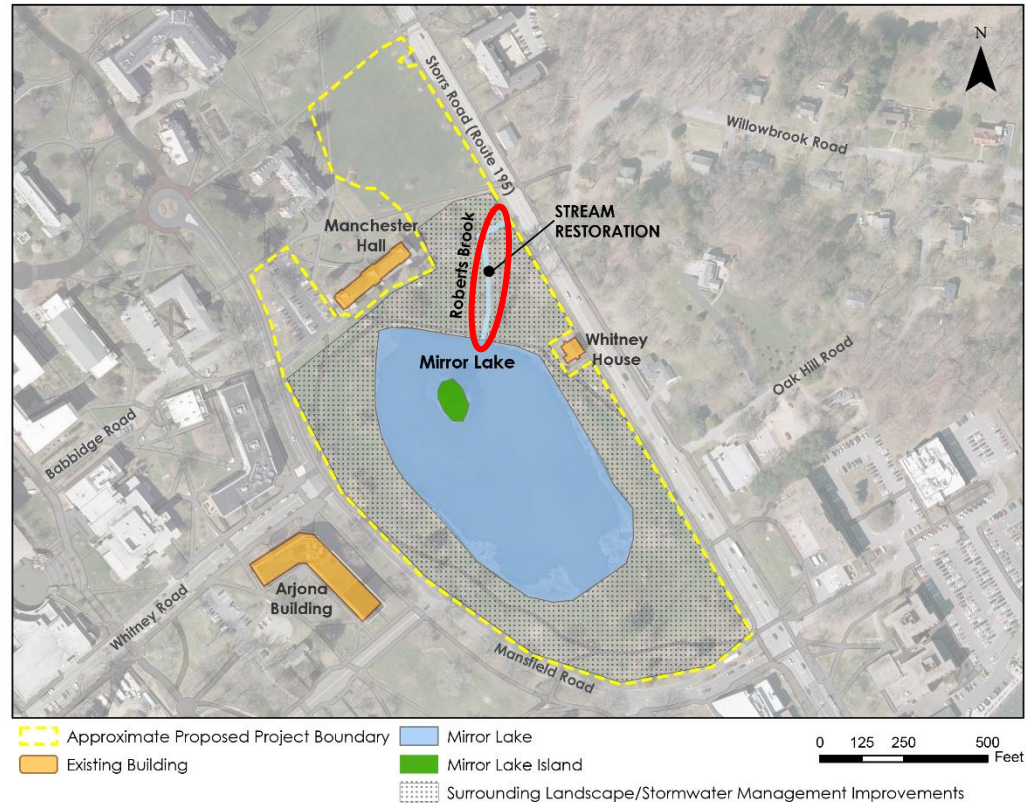
- **Dredging**

- Hydraulic dredging (soft sediment) to depth of 6 feet and removal of 19,600 cy
- Mechanical dredging (hard bottom) to depth of ± 9 ft and removal of 26,800 cy
- Reshaping/expansion of island (3,500 cy)



Preferred Alternative

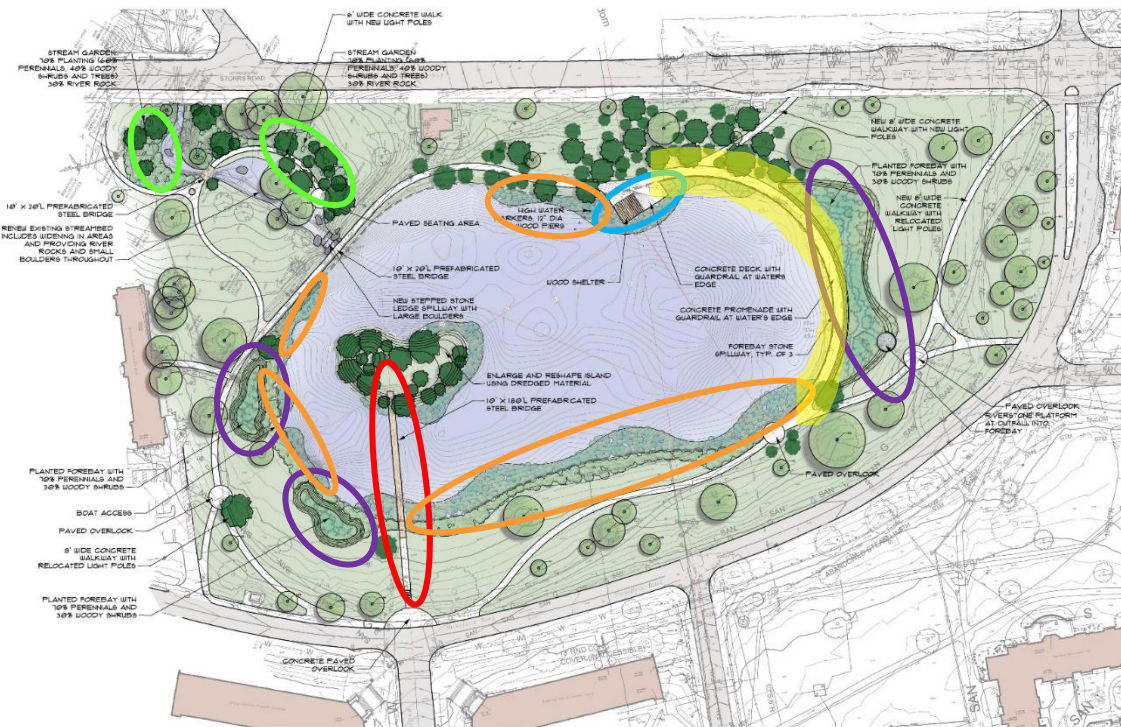
- **Stream Restoration and Riparian Enhancement**
 - Restoration of Roberts Brook channel
 - Daylighting of culverted section



Preferred Alternative

• Other Site Elements

- Vegetated forebays (stormwater management)
- Littoral zone plantings
- Shelter*
- Promenade/overlook*
- Pedestrian bridge*
- Rain/stream gardens*



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CONCEPT PLAN
MIRROR LAKE - UNIVERSITY OF CONNECTICUT

SCALE 1"=40'-0"

DATE 05/14/2011
SCALE 1"=40'
PROJECT NO. 415110
CP-1

*Alternate elements

Assessment of Impact

Resources Not Present

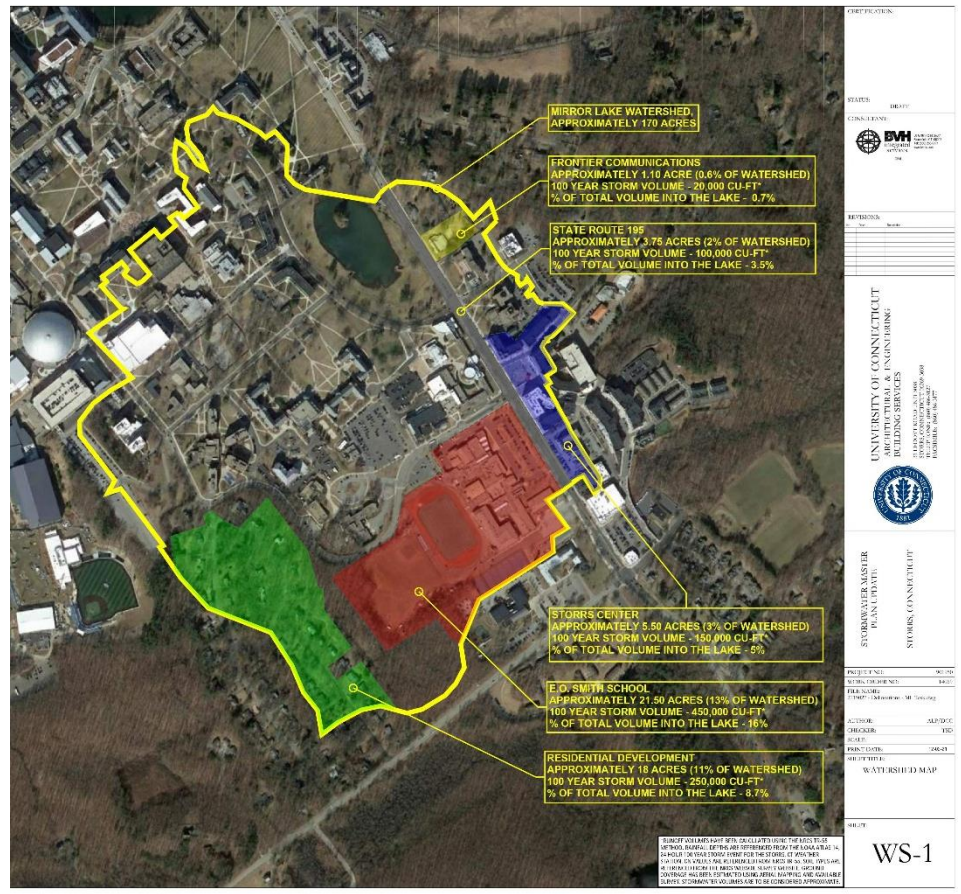
- No Farmland Soils
- No Sole Source Aquifers/Aquifer Protection Areas
- No Coastal Resources
- No State-Listed Species
- No Federal Emergency Management Agency (FEMA) Floodplains

No Significant Impact

- Campus and State Planning
- Geology, Topography, and Soils
- Solid and Hazardous Waste Generation
- Noise
- Air Quality
- Solid Waste
- Toxic and Hazardous Materials
- Public Health and Safety
- Socioeconomic Factors
- Traffic, Parking, and Circulation
- Energy Use and Conservation
- Climate and Resilience

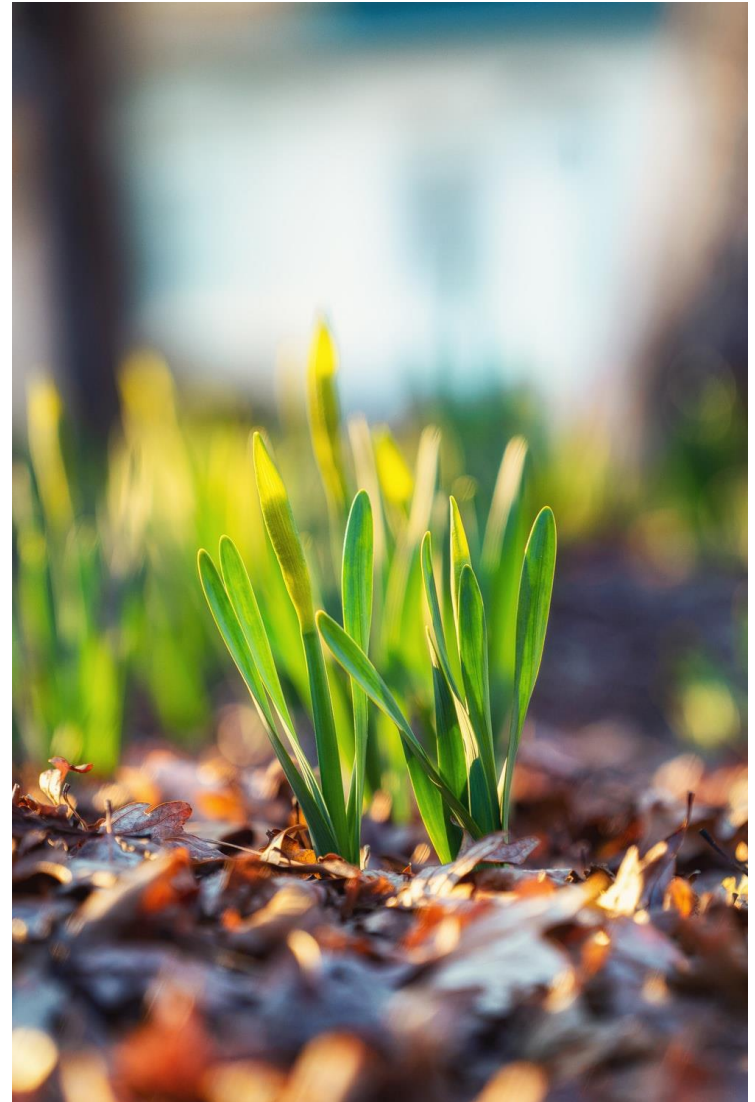
Natural Resources

- Water Resources
 - Overall beneficial impact to water resources and water quality by addressing dam safety and stormwater management issues for Mirror Lake
 - Design will be consistent with the guidelines of the CTDEEP Connecticut Stormwater Quality Manual and Dam Safety Regulations
 - Subject to state and federal permitting
 - Post-construction operations and maintenance for stormwater controls



Natural Resources

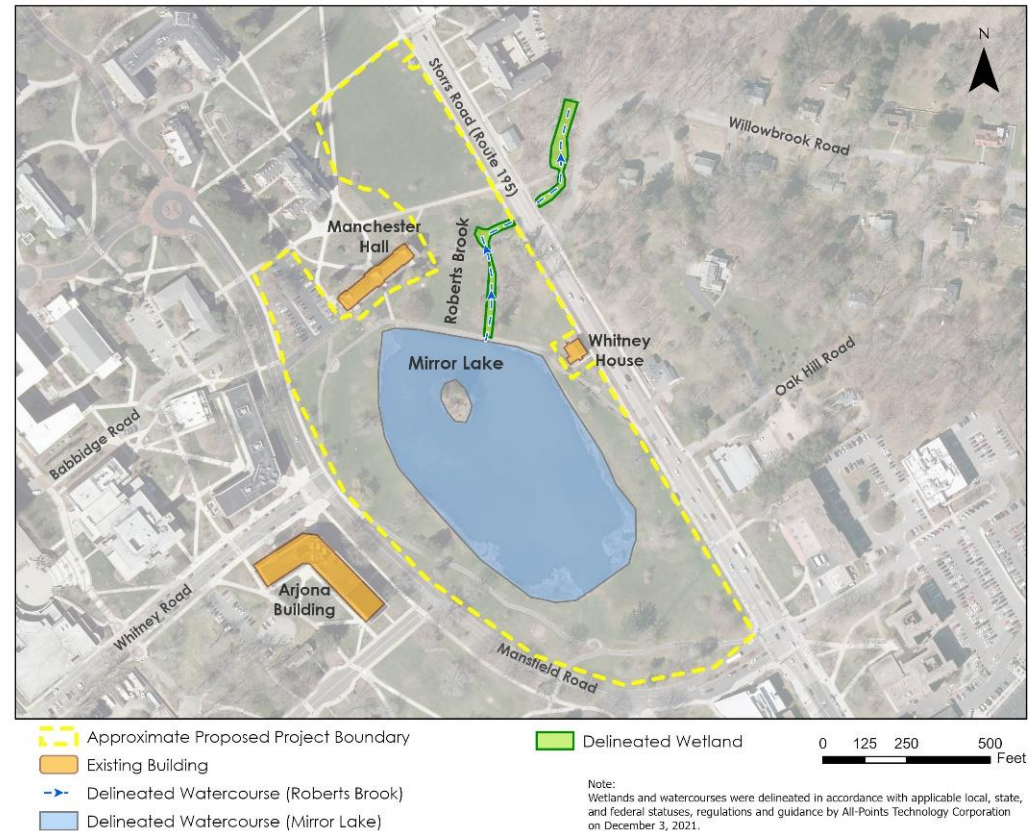
- **Natural Communities, Flora, Fauna**
 - **Some vegetation and tree clearing**
 - Federally-listed northern long-eared bat potentially in the region, but no known hibernacula mapped in Mansfield
 - **Benefit to aquatic habitat** (water quality improvements)
 - **Native species plantings** potentially support pollinator and other wildlife habitat



Natural Resources

- **Wetlands**

- **Mirror Lake** (~5 acres of inland watercourse) **altered by dredging**
- Depending on final design ~**1,750 to 2,150 SF** of inland wetlands and watercourse (**Roberts Brook**) impacted by **restoration**
- **Mitigation** will be identified through state and federal permitting



Built Environment

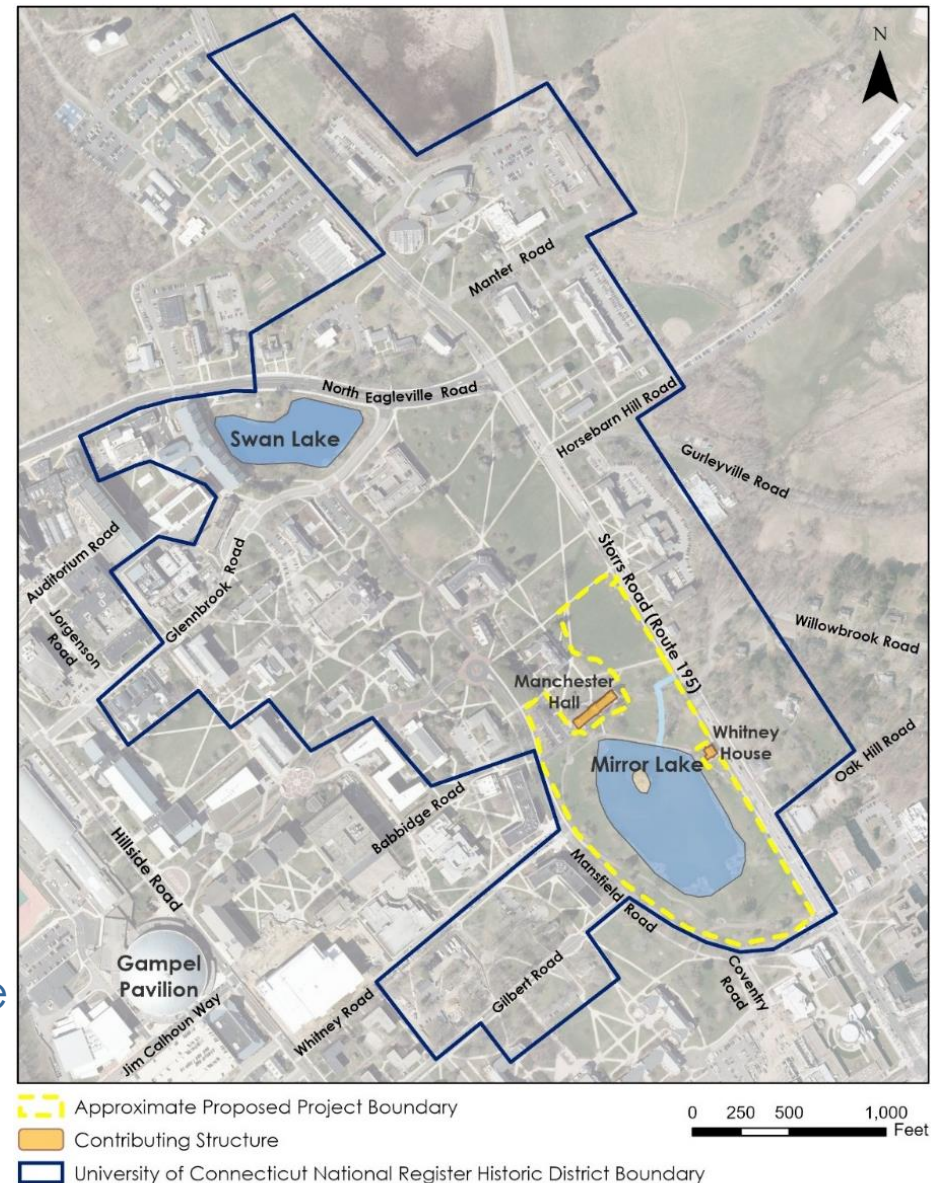
- **Visual and Aesthetic Character**

- Proposed Action includes **integration of the site with surrounding landscapes** and built environment
- **Improvements of visual and aesthetic character** from the proposed shoreline and littoral zone plantings in curvilinear beds and increased access to the water's edge
- Implementation of visual/aesthetic elements of the Campus Master Plan and District guidelines, incorporation of stormwater infrastructure into the visual landscape, and use of natural materials.

Built Environment

- **Cultural Resources**

- Within University of Connecticut National Register Historic District, but **not impacting contributing resources to the District**
- Pending further review of landscape elements, State Historic Preservation Office (SHPO) has indicated **no anticipated adverse impact** to historic resources
- UConn **continuing discussion** and opportunity for comment with SHPO and Preservation Connecticut
- **Design team** includes landscape architects with experience in cultural landscapes and historic districts



Built Environment

- **Utilities**

- **No anticipated impacts** to electrical service, water, gas, and sewer utilities
- Proposed Action **supports the goals in the campus Drainage Master Plan** to improve stormwater management and increase resilience of Mirror Lake/Roberts Brook system to stormwater runoff under future development and climate conditions
- Stormwater utilities **designed in accordance with the Connecticut Stormwater Quality Manual and any memoranda of agreement between UConn and CTDEEP** related to stormwater in effect at the time of construction

Construction Period

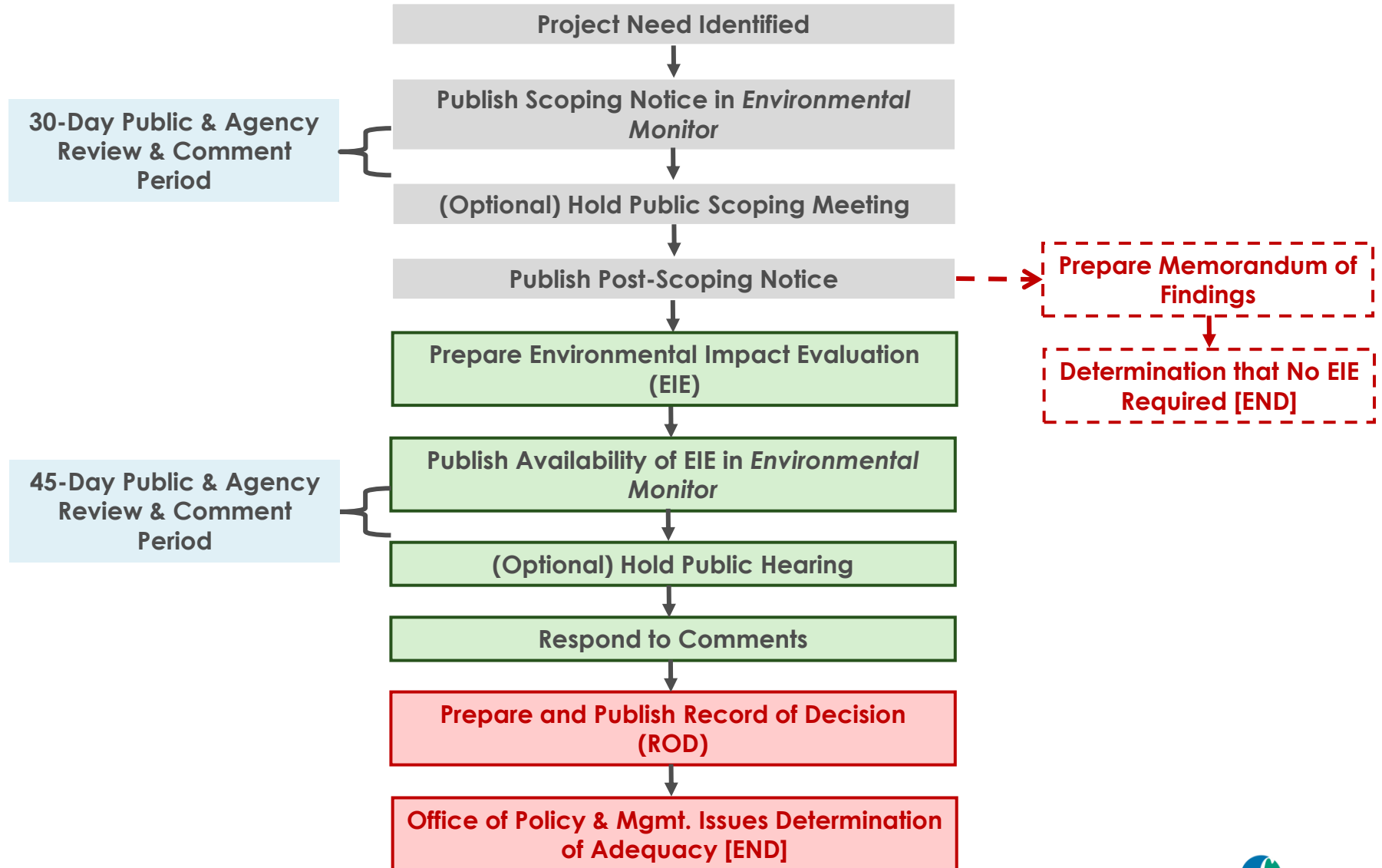
- **Temporary construction-related impacts** (noise, traffic disruption, waste generation, etc.) will be mitigated by appropriate best management practices and permitting requirements.
- **Dewatering area** for hydraulically dredged materials may require closure of the Manchester Hall lot and/or use of the Great Lawn or law area south of the Manchester Lot, all of which would be **restored following construction**.

Indirect and Cumulative Impacts

- **No indirect impacts** associated with induced growth or encroachment/alteration anticipated
- **No cumulative negative impact** anticipated.
- The Proposed Action supports maintaining discharges from Mirror Lake to pre-1993 conditions – significant action to mitigate and avoid cumulative impacts from past and reasonably foreseeable development

Next Steps

CEPA Process Map & Proposed Timeline



Schedule Milestones

Milestone	Tentative Date
Public Hearing	April 13, 2022
End of CEPA EIE Public Comment Period	May 20, 2022
CEPA Record of Decision (ROD)	Sept 2022
Planned Start of Construction	Winter 2022 to Spring 2023 <i>(depending on permitting)</i>

Comments

- **Comments accepted tonight** (via comment sheet, chat, or by raising hand)
 - State **name**, **address**, and your **comment(s)**
- **Submit comments**
(email preferred – “**Mirror Lake EIE**” in subject line) to:
 - Name: **Ian Dann**, Project Manager
 - Address: 31 LeDoyt Rd, Unit 3038, Storrs, Connecticut 06269-3038
 - Fax: (860) 486-3117
 - E-mail: **ian.dann@uconn.edu**
- End of Comment Period: **May 20, 2022**
- Additional information on the project, as well as a link to a recording of the meeting, is posted at:
<https://updc.uconn.edu/mirror-lake>
- Recording will be posted after **April 14, 2022**